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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/603,588

06/25/2003

Robert William Sutter

2006.66594

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24978

7590

01/11/2005

GREER, BURNS & CRAIN
300 S WACKER DR
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CHICAGO, IL 60606

EXAMINER

CAO, HUEDUNG X

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/603,588	Applicant(s) SUTTER ET AL.	
	Examiner Huedung X Cao	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-7, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Moore et al. (US 6369775).

With respect to claim 1, Moore teaches a multiple bandwidth antenna assembly comprising:

a helical radiator having at least a first helical pitch and a second helical pitch (pitches sections 16, 18, and 20, column 2, line 55); a core plug having a first axial piece and a second axial piece that abut one another (core plug 14, column 2, line 53); and a first recessed pattern configured on said first axial piece to engage at least said first helical pitch and a second recessed pattern configured on said second axial piece to engage at least said second helical pitch (column 2, lines 51-60).

Claim 2 adds into claim 1, wherein said first axial piece and said second axial piece are configured to couple with one another (figure 1B; column 2, line 61-column 3, line 47).

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Claim 3 adds into claim 1, wherein said first axial piece and said second axial piece threadedly engage one another (figure 1B; column 2, line 61-column 3, line 47).

Claim 4 adds into claim 1, wherein said first axial piece and said second axial piece engage one another in a snap fit engagement (figure 1B; column 2, line 61-column 3, line 47).

Claim 5 adds into claim 1, wherein medial 2 ends of each of said first and second axial pieces are configured to matingly engage one another (figure 1B; column 2, line 61-column 3, line 47).

Claim 6 adds into claim 1, wherein medial 2 ends of each of said first and second axial pieces are configured to frictionally engage one another (figure 1B; column 2, line 61-column 3, line 47).

Claim 7 adds into claim 1 wherein, medial 2 ends of each of said first and said second axial pieces are configured to be in abutment with one another (figure 1B; column 2, line 61-column 3, line 47).

With respect to claims 12-15, wherein one of said first and second recessed patterns includes a second helical pitch, wherein said second recessed pattern is configured to engage both of said first and said second helical pitches, wherein said first and second recessed patterns each include a second helical pitch, wherein said helical radiator is configured to engage said first and second helical pitches and each of said first and second recessed patterns (figure 1B).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore et al. (US 6369775).

With respect to claim 8, wherein medial 2 ends of each of said first axial piece and said second axial piece are held in engagement by adhesion which Moore does not explicitly disclose. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive to bond the helical radiators together.

With respect to claim 9, wherein said 2 first helical pitch creates resonance at a frequency of 1575MHz and a combination of said first helical pitch and said second helical pitch creates resonance between 806 and 941 MHz which Moore does not explicitly disclose. However, It would have been obvious to one having ordinary skill in the art to use different frequency, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art.

With respect to claims 10 and 11, wherein said second axial piece is made of a relatively more elastic material than said first axial piece, and wherein said second axial

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piece comprises Lexan 141 and said first axial piece comprises Texin 255 which Moore does not explicitly disclose. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the adhesive to bond the helical radiators together.

Claims 16-23 are similar in scope to claims 1-15; therefore, they are rejected for the same reason.

Claims 24-31 are similar in scope to claims 1-15; therefore, they are rejected for the same reason.

Response to Arguments

5. Applicant's arguments filed on 11/01/2004 have been fully considered but they are not persuasive.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Regarding claims 1, 16, 24 and 31, a phrase "a core plug having a first axial piece and a second axial piece that abut one another". Hence, examiner interpreted the phrase "a first axial piece and a second axial piece that abut one another" in the broadest sense. The "first axial piece and second axial piece" could be any sections 16, 18, and 20 of figure 1B. Therefore, the 35 USC 102 rejections to claims 1, 16, 24 and 31 stands.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Inquires

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

8. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Huedung Cao
Patent Examiner


WILSON LEE
PRIMARY EXAMINER